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NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF CHEMISTRY

Analyses of Feeding-Stuffs

MADE FOR THE
STATE BOARD OF AGRICULTURE

1909

FRED W. MORSE and B. E. CURRY

NEW HAMPSHIRE COLLEGE
OF
AGRICULTURE AND THE MECHANIC ARTS
DURHAM, N. H.

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NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

DURHAM, N. H.

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The bulletins of the Experiment Station are published at irregular intervals, and are sent *free* to all residents of New Hampshire requesting them.

THE INSPECTION OF FEEDING-STUFFS

The inspection of commercial feeding-stuffs is becoming fully as important as the inspection of commercial fertilizers, and more difficult to execute. While the fertilizer trade is limited to about two months in the year and the number of different brands is nearly the same every year, the feeding-stuffs are being shipped into the state throughout the twelve months and new brands are appearing with almost every shipment.

This year there were found eighty-four brands duly licensed according to law, and twenty-nine brands unmentioned in the lists filed by the manufacturers and jobbers with the Secretary of the Board of Agriculture.

Our present law controlling the sale of feeding-stuffs is defective in several points as shown by experience with its workings. The most prominent defects are its provision for a license fee and its requirements regarding guarantees.

The provision for a license fee now in effect is unjust to the small manufacturer and yields too little revenue with which to conduct the inspection. All manufacturers pay a license fee, which is as large for the miller with one brand of mixed feed, as it is for the jobber who is putting forth ten brands or even more. If the money for the enforcement of the law is to be raised by license fees, there should be one for every brand, but no larger than is necessary to pay the cost of the inspection.

It has been found by experience that guarantees of protein and fat are not sufficient to insure good materials, since much cheap roughage may be mixed with a moderate amount of a concentrated by-product as cottonseed meal, and the percentages of protein and fat will compare favorably with those for wheat bran, while the price is usually a little lower. Analysis will show a high percentage of fibre, however, which means a lower rate of digestibility than that of the standard well known cattle-foods. For example, some of the molasses feeds have been found to contain fourteen per cent. of crude fibre, and though this is an improvement, because they formerly carried as much as

twenty-one per cent., yet they are still much in excess of the bran and even of distillers' grains. In the states, with the latest statutes governing feeding-stuffs, crude fibre is included among the constituents to be guaranteed, and a marked improvement has taken place in the character of the feeds on the market. In no other way will such materials as oat hulls and flax straw be reduced to a minimum in the various ready mixed rations.

Appreciating the defects in the present feed-stuff law, the Secretary of the State Board of Agriculture secured the introduction of a bill providing for its amendment at the last session of the legislature, which passed the House but failed report by the Senate Committee. A copy of the present feed-stuff law with the proposed amendment is to be found on page 175. We have also added a copy of a type of uniform feed-stuff law which was approved by a conference of state officials and leading manufacturers at Washington, D. C., September 10, 1909. This proposed law is very similar to that adopted by the Association of Commissioners of Agriculture of the southern states and is supported by the manufacturers so that they may have uniformity of legislation in the different states in which their goods are sold.

Of all the feeding-stuffs examined, there were few noticeable failures to meet the guarantees, and these were limited to the cottonseed meals and distillers' grains.

Of eleven different brands of cottonseed meal nine were guaranteed to contain forty-one per cent. of protein, but three of them should have been guaranteed in the same class with the two for which 38.5 per cent. was claimed.

The southern cotton crushers are particular to grade their goods according to the nitrogen content or its equivalent in protein, and prices vary accordingly; but northern grain jobbers classify all cottonseed meals alike as regards prices and as a rule make the guarantees on the basis of choice meal.

Some offer rebates if the consumer finds the goods deficient; but the user of a few bags of cottonseed meal rarely secures an analysis, without which no rebate can be claimed.

Hence a shrewd jobber can make increased profits by putting out a second-rate meal for the price of a first-rate article and maintain a reputation for square dealing by offering rebates, which can seldom be claimed. The consumer will be safe to avoid brands that inspection reports show to be inferior to the guarantees.

The attention of feeders needs to be given especially to the relation between prices and percentages of nutrients. Standard concentrated feeding-stuffs—cottonseed meal, distillers' grains, gluten feed and flax meal—ranged in price from $1.65 to $1.75 per one hundred pounds. There were but two of the compound feeds that sold for less than $1.50 per one hundred pounds, while many of them cost as much as the standard concentrates.

Every feeder knows the value of cottonseed meal, gluten feed, bran and so forth. The value of a ready mixed grain ration is uncertain, therefore there should be an effort on the part of consumers to bear the prices of such rations downward to a wider margin between them and standard materials.

A notable feature of the inspection this year is the marked increase in the number of brands of poultry foods, especially of the grain mixtures. A study of prices is interesting, since it shows they cost from $2 to $2.50 per one hundred pounds. Of the grains, wheat, oats, barley, corn and so forth, wheat was the only one which sold as high as $2 per one hundred pounds at retail. It is asserted over and over again, that the farmer must grade his products or else be satisfied with the price of the poorest article for the lot.

In the feed business, it seems that the farmer is paying the price of the best ingredient for the whole mixture.

The following table gives the list of brands of feeding-stuffs, together with their guarantees and the percentages found. All samples were collected by Mr. Albert J. Richardson, agent of the State Board of Agriculture, and credit is due Messrs. W. L. Adams and C. H. Reynolds for the analytical work.

Only four of the brands of cottonseed meal were duly licensed; but protein was determined in the other seven and they are included in the table.

Composition of Commercial Feeding-Stuffs, 1909.

Cattle Foods.

Brand.	Manufactured by	Protein. Guaranteed.	Protein. Found.	Fat. Guaranteed.	Fat. Found.	Cost per 100 pounds.
COTTONSEED MEAL.						
Choice Cottonseed meal	American Cotton Oil Co.	41.00	40.27	9.00	10.29	$1.65
Battle Brand Choice Cottonseed meal	W. P. Battle & Co.	41.00	40.72	8.00	.....	1.60
Cottonseed meal	H. E. Bridges & Co.	41.00	40.75	7.00	.....	1.60
Owl Brand Cottonseed meal	F. W. Brodie Co.	41.00	40.14	6.00	10.81	1.65
Buckeye meal	Buckeye Oil Co.	39.00	38.29	7.50	.....	1.65
Old Gold Cottonseed meal	T. H. Bunch & Co.	41.00	38 69	9.00	.....	1.65
Cottonseed meal	Cochran Oil Meal & Ginery Co.	41 00	44.70	7.00	.....	1.70
Dixie Brand Cottonseed meal	Humphrey, Goodwin Co	41.00	38 08	7.00	10.62	1.60
Prime Cottonseed meal	Hunter Brothers	38.50	38.04	8 00	10.59	1.75
Purity Brand Cottonseed meal	Lackstone Smith	41.00	39.74	5.00	.....	1.65
Soper's Choice Cottonseed meal	J. E. Soper & Co.	41.00	42.43	8.00	.....	1.65
MIXED FEEDS.						
Sucrene Dairy Feed	American Milling Co.	16.50	18.25	3.50	5.65	1.50
Sucrene Horse and Mule Feed	" "	10 00	11.14	3.00	5.07	1.50
Biles Ubiko Horse Feed	J. W. Biles Co.	16.00	20.14	6.00	7.63	1.70
Union Grains, Ubiko	" "	24.00	23.08	7.00	8.50	1.70
Buff-Ce-Co Creamery Feed	Buffalo Cereal Co.	18-20.00	20.48	4-5.00	5.39	1.60
Buff-Ce Co Horse Feed	" "	12.60	12.55	4.50	5.22	1.85
Buff-Ce-Co Chop Feed	" "	7- 8.00	7.99	3-4 00	4.79	1.40
Pearl Horse and Cow Feed	Chapin & Co.	6-10.00	9.48	3-6.60	4.81	1.50
Unicorn Balanced Dairy Ration	" "	26.00	28.58	6.00	6.06	1.65
Wirthmore Stock Feed	Charles M. Cox Co.	10-12.00	10.18	4-5.00	9.56	1.65
Boss Chop Feed	Great Western Cereal Co.	8.50	9.83	3.50	5.04	1.75
Daisy Dairy Feed	" " "	14-16.00	17.71	3-4.00	5.05	1.50

Sterling Stock Feed	Great Western Cereal Co.	11-13.50	11.58	4-5.50	4.32	$1.60
Haskell Stock Food	W. H. Haskell & Co.	8-10.00	10.27	4-5.00	9.22	1.65
Algrane Horse Feed	H—O Co.	12.00	12.64	4.50	5.69	1.85
Algrane Milk Feed	" "	14.00	18.65	4.00	4.50	1.55
New England Stock Food	" "	9.00	9.30	4.00	8.25	1.55
Husted Germalina	Husted Milling Co.	9-11.00	7.77	3-5.00	5.77	1.60
Molasses Feed	" "	18-20.00	19.53	4.00	4.03	1.50
Jersey Mixed Feed	Indiana Milling Co.	10-12.00	12.38	2.5-3.50	3.43	1.35
Sugarota	North West Mills Co.	18.00	19.53	4.50	8.19	1.50
Schumacher Stock Feed	Quaker Oats Co.	10.00	12.55	4.00	4.18	1.65
Victor Feed	" "	7.50	9.21	3.00	3.62	1.60
Paragon Dairy Feed	St. Albans Grain Co.	28-30.00	30.76	5-7.00	6.89	1.60
Cleveland Flax meal	American Linseed Co.	36.00	38.74	1.00	4.75	1.75
Old Process Oil meal	" "	32.00	34.75	5.00	6.05	2.00
Cream of Corn Gluten Feed	American Maize Products Co.	23.00	26.33	2.50	3.30	1.70
Clinton Gluten Feed	Clinton Sugar Refining Co.	23.00	23.08	3.00	5.30	1.70
Pekin Crescent Gluten Feed	Corn Products Refining Co.	23.00	28.26	2.55	2.57	1.65
Ajax Flakes	Ajax Milling & Feed Co.	31.00	29.31	12.00	12.49	1.75
J. W. Biles Co. XX Grains	J. W. Biles Co.	30.00	27.43	8.00	12.62	1.65
Biles XXXX Grains	" "	33.00	31.59	11.00	11.54	1.75
Empire State Dairy Feed	J. D. Page & Co.	32.00	26.24	11.00	12.42	1.65
Wirthmore Hominy Feed	Charles M. Cox Co.	10.50	10.79	7.50	11.62	1.60
Star Feed	Toledo Elevator Co.	7.00	8.65	6.50	6.83	1.40
Star Cotton Feed	" "	10.00	12.07	7.50	7.84	1.60
Blatchford Calf meal	J. W. Barwell	25.00	28.39	5.00	5.13	3.30
Triangle Calf Food	Chapin & Co.	.....	21.77	.....	10.22	2.25
Gregson Calf meal	Great Western Cereal Co.	25.00	21.72	5.00	8.87	3.00
Schumacher Calf meal	Quaker Oats Co.	19.00	20.75	8.00	9.45	3.00
CHICKEN FEEDS.						
Buff-Ce-Co Chick Feed	Buffalo Cereal Co.	.....	12.16	.....	4.74	2.25
Buff-Ce-Co Poultry Feed	" "	17.00	14.33	5.00	6.39	2.10
Wirthmore Gritless Chick Feed	Charles M. Cox Co.	.....	10.49	.....	3.08	2.00
Wirthmore Poultry Mash	" "	20.00	21.06	3.00	3.12	2.00
Cyphers Chick Feed	Cyphers Incubator Co	10.24	11.41	3.40	3.18	2.00
Sterling Scratch Feed	Great Western Cereal Co.	11.00	10.23	3.00	4.50	2.00
Monadnock Scratch Feed	Holbrook Grocery Co.	11.00	11.14	3.60	3.54	2.50
Algrane Scratching Feed	H—O Co.	11.00	11.67	3.50	3.94	1.75
Chick Feed	" "	12.00	12.20	3.00	4.33	2.10
H—O Co.'s Poultry Feed	" "	17.00	18.34	5.50	5.76	2.00
Chick Feed	Husted Milling Co.	12.00	12.46	4.00	3.36	2.25
Laying Mash	" "	15.00	15.71	3.00	6.27	2.10
Scratch Feed	" "	.....	11.15	.....	4.56	2.10

Composition of Commercial Feeding-Stuffs.—Continued.

Brand.	Manufactured by	Protein.		Fat.		Cost per 100 pounds.
		Guaranteed.	Found.	Guaranteed.	Found.	
CHICKEN FEEDS.—*Continued.*						
Intermediate Chick Feed	Park & Pollard Co.	20.00	10.71	3 00	3.44	$2.50
Growing Feed	" "	14.00	13.42	3.00	3.19	2.50
Dry Mash Feed	" "	20 00	22.63	3.00	4.00	2.50
Screened Scratch Feed	" "	10 00	11.23	3.00	4.70	2.50
American Poultry Feed	Quaker Oats Co.	12.00	13.16	3.00	7.72	1.90
Schumacher Scratching Grains	" "	10 50	10.36	3.00	3.47	2.00
Schumacher Chick Feed	" "	10.60	10.71	3.50	3.50	2.50
Purina Mill Feed, Chick Size	Ralston Purina Co.	11.00	11 41	3.60	4.36	2.15
Worcester Chick Grower	Ross Bros.	12.00	12 02	2.12	3.80	2.25
Wyandotte Chicken Food	"	8.25	9.39	3.25	3.13	2.25
Gritless Chick Feed	St. Albans Grain Co.	11.00	11.41	1.00	3.04	.....
Bradley's Superior Meat Meal	Am. Agr. Chemical Company	.....	31.42	.....	12 97	4.15
Ground Beef Scraps	" " "	40 00	47.61	5.00	9.34	2.50
Star Granulated Bone	Beach Soap Co.	25.00	25 93	5 00	12.45	2.25
Star Brand Bone Meal	" "	10 00	12.94	8.00	12 50	1.85
Star Cracked Bone	" "	25.00	25.14	5 00	7 08	2.50
Star Brand Meat and Bone	" "	30.00	32 91	10.00	9.88	1.85
Star Brand Pure Ground Beef Scraps	" "	.....	40 67	.....	21.00	2.75
Bowker's Animal Meal	Bowker Fertilizer Co.	40.00	39.79	5.00	12.36	2.50
Beef Scraps	" " "	40.00	47.95	5.00	15.21	2.50
Dow's Ground Beef Scraps	John C. Dow Co.	43.00	42.92	12.00	13.93	2.50
Beef Scraps	Hinckley Rendering Co.	35.00	38.72	10.00	14 62	2.75
Bone and Meat Meal	" "	35.00	35 98	5.00	9.25	2.50
Page's Perfected Poultry Food	C. S. Page	24.00	25 27	8.00	13 66	3 00
Swift's Lowell Beef Scraps	Swift's Lowell Fertilizer Co.	35.00	45.45	10.00	15.10	2.60
Meat and Bone Meal	" "	40.00	45.85	8.00	11.14	2 50
Pure Beef Scraps	Whitman & Pratt	40.00	42.07	10.00	16.44	2.40

THE PRESENT FEED LAW.

STATE OF NEW HAMPSHIRE.

CHAPTER 35, SESSION LAWS OF 1901.

An Act to Regulate the Sale of Concentrated Commercial Feeding-Stuffs.

SECTION 1. Every manufacturer, company, or person, who shall sell, offer, or expose for sale or for distribution in this state any concentrated commercial feeding-stuff used for feeding farm live-stock, shall furnish with each car or other amount shipped in bulk and shall affix to every package of such feeding-stuff, in a conspicuous place on the outside thereof, a plainly printed statement clearly and truly certifying the number of net pounds in the package sold or offered for sale, the name or trade-mark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis stating the percentages it contains of crude protein, allowing one per centum of nitrogen to equal six and one fourth per centum of protein, and of crude fat, both constituents to be determined by the methods prescribed by the association of official agricultural chemists. Whenever any feeding-stuff is sold at retail in bulk or in packages belonging to the purchaser, the agent or dealer, upon request of the purchaser, shall furnish to him the certified statement named in this section.

SECT. 2. The term "concentrated commercial feeding-stuffs," as used in this act, shall include linseed meals, cottonseed meals, pea meals, cocoanut meals, gluten meals, gluten feeds, maize feeds, starch feeds, sugar feeds, dried brewer's grains, malt sprouts, hominy feeds, cerealine feeds, rice meals, oat feeds, corn and oat chops, ground beef or fish scraps, mixed feeds, and all other materials of similar nature; but shall not include hays and straws, the whole

seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn; neither shall it include wheat, rye, and buckwheat brans or middlings, not mixed with other substances, but sold separately, as distinct articles of commerce, nor pure grains ground together.

SECT. 3. Before any manufacturer, company, or person shall sell, offer, or expose for sale in this state any concentrated commercial feeding stuffs, he or they shall, for each and every feeding-stuff bearing a distinguishing name or trade-mark, file annually during the month of December with the secretary of the board of agriculture a certified copy of the statement specified in the preceding section, said certified copy to be accompanied, when the secretary shall so request, by a sealed glass jar or bottle containing at least one pound of the feeding-stuff to be sold or offered for sale, and the company or person furnishing said sample shall thereupon make affidavit that said sample corresponds within reasonable limits to the feeding-stuff which it represents, in the percentage of protein and fat which it contains.

SECT. 4. Each manufacturer, importer, agent, or seller of any concentrated commercial feeding-stuffs, shall pay annually during the month of December to the secretary of the board of agriculture a license fee of twenty dollars. Whenever a manufacturer, importer, agent, or seller of concentrated commercial feeding-stuffs desires at any time to sell such material and has not paid the license fee therefor in the preceding month of December, as required by this section, he shall pay the license fee prescribed herein before making any such sale. The amount of license fees received by said secretary pursuant to the provisions of this section shall be paid by him to the treasurer of the state of New Hampshire. The treasurer of the state of New Hampshire shall pay from such amount when duly approved the moneys required for the expense incurred in

making the inspection required by this act and enforcing the provisions thereof. The secretary of the board of agriculture shall report biennially to the legislature the amount received pursuant to this act, and the expense incurred for salaries, laboratory expenses, chemical supplies, traveling expenses, printing, and other necessary matters. Whenever the manufacturer, importer, or shipper of concentrated commercial feeding-stuff shall have filed the statement required by section 1 of this act and paid the license fee as prescribed in this section, no agent or seller of such manufacturer, importer, or shipper shall be required to file such statement or pay such fee.

Sect. 5. The secretary of the board of agriculture shall annually cause to be analyzed at the New Hampshire College Agricultural Experiment Station, at least one sample, to be taken in the manner hereinafter prescribed, of every concentrated commercial feeding-stuff sold or offered for sale under the provisions of this act. Said secretary shall cause a sample to be taken, not exceeding two pounds in weight, for said analysis, from any lot or package of such commercial feeding-stuff which may be in the possession of any manufacturer, importer, agent, or dealer in this state; but said sample shall be drawn in the presence of the parties in interest, or their representatives, and taken from a parcel or a number of packages, which shall not be less than ten per centum of the whole lot sampled, and shall be thoroughly mixed, and then divided into two equal samples, and placed in glass vessels and carefully sealed and a label placed on each stating the name of the party from whose stock the sample was drawn and the time and place of drawing, and said label shall also be signed by the person taking the sample, and by the party or parties in interest or their representatives at the drawing and sealing of said samples; one of said duplicate samples shall be retained by the secretary and the other by the party whose stock was sampled, and the sample or samples retained by the

secretary shall be for comparison with the certified statement named in section 3 of this act. The result of the analysis of the sample or samples so procured, together with such additional information as circumstances advise, shall be published in reports or bulletins from time to time.

SECT. 6. Any manufacturer, importer, or person who shall sell, offer, or expose for sale or for distribution in this state any concentrated commercial feeding-stuff, without complying with the requirements of this act, or any feeding-stuff which contains substantially a smaller percentage of the constituents than are certified to be contained, shall, on conviction in a court of competent jurisdiction, be fined not more than one hundred dollars for the first offense, and not more than two hundred dollars for each subsequent offense.

SECT. 7. Any person who shall adulterate any kind of meal or ground grain with milling or manufacturing offals, or any other substance whatever, for the purpose of sale, unless the true composition, mixture, or adulteration thereof is plainly marked or indicated upon the package containing the same or in which it is offered for sale; or any person who knowingly sells, or offers for sale, any meal or ground grain which has been so adulterated unless the true composition, mixture, or adulteration is plainly marked or indicated upon the package containing the same, or in which it is offered for sale, shall be fined not less than twenty-five or more than one hundred dollars for each offense.

SECT. 8. Whenever said secretary becomes cognizant of the violation of any of the provisions of this act he shall prosecute the party or parties thus reported; but it shall be the duty of said secretary, upon thus ascertaining any violation of this act, to forthwith notify the manufacturer, importer, or dealer in writing, and give him not less than thirty days thereafter in which to comply with the requirements of this article; but there shall be no prosecution in relation to the quality of any concentrated commercial feed-

ing-stuff if the same shall be found substantially equivalent to the certified statement named in section 3 of this article.

SECT. 9. This act shall take effect December first, nineteen hundred and one.

PROPOSED AMENDMENT TO THE FEED LAW.

STATE OF NEW HAMPSHIRE.

IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND NINE.

An Act to Amend Chapter 35, Session Laws of 1901, entitled An Act to Regulate the Sale of Concentrated Commercial Feeding-Stuffs.

SECTION 1. That section 1 of chapter 35, Session Laws of 1901, be amended by inserting after the words "and of crude fat," the words "and of crude fibre," so that the section as amended shall read: Every manufacturer, company or person, who shall sell, offer, or expose for sale or for distribution in this state any concentrated commercial feeding-stuff used for feeding farm live-stock, shall furnish with each car or other amount shipped in bulk and shall affix to every package of such feeding-stuff, in a conspicuous place on the outside thereof, a plainly printed statement clearly and truly certifying the number of net pounds in the package sold or offered for sale, the name or trademark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis stating the percentages it contains of crude protein, allowing one per centum of nitrogen to equal six and one-fourth per centum of protein, of crude fat and of crude fibre, both constituents to be determined by the methods prescribed by the association of official agricultural chemists. Whenever any feeding-stuff

is sold at retail in bulk or in packages belonging to the purchaser, the agent or dealer, upon request of the purchaser, shall furnish to him the certified statement named in this section.

Sect. 2. That section 2 of the same act be amended by inserting after the words "corn and oat chops," the words "wheat, rye, and buckwheat bran and middlings," and by striking out the words "neither shall it include wheat, rye, and buckwheat brans or middlings, not mixed with other substances, but sold separately, as distinct articles of commerce, nor pure grains ground together," so that section 2 shall read: The term "concentrated commercial feeding-stuffs," as used in this act, shall include linseed meals, cottonseed meals, pea meals, cocoanut meals, gluten meals, gluten feeds, maize feeds, starch feeds, sugar feeds, dried brewer's grains, malt sprouts, hominy feeds, cerealine feeds, rice meals, oat feeds, corn and oat chops, wheat, rye, and buckwheat bran and middlings, ground beef or fish scraps, mixed feeds, and all other materials of similar nature; but shall not include hays and straws, the whole seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn.

Sect. 3. That section 4 of said act be amended by substituting for the words "a license" the words "an analysis" throughout the section; by substituting the word "fifteen" for the word "twenty"; and by inserting after the word "dollars" the words "for each brand offered for sale within the state" so that section 4 as amended shall read: Each manufacturer, importer, agent, or seller of any concentrated commercial feeding-stuffs, shall pay annually during the month of December to the secretary of the board of agriculture an analysis fee of fifteen dollars, for each brand offered for sale within the state. Whenever a manufacturer, importer, agent or seller of concentrated commercial feeding-stuffs desires at any time to sell such mate-

rial and has not paid the analysis fee therefor in the preceding month of December, as required by this section, he shall pay the analysis fee prescribed herein before making any such sale. The amount of analysis fees received by said secretary pursuant to the provisions of this section shall be paid by him to the treasurer of the state of New Hampshire. The treasurer of the state of New Hampshire shall pay from such amount when duly approved the moneys required for the expense incurred in making the inspection required by this act and enforcing the provisions thereof. The secretary of the board of agriculture shall report biennially to the legislature the amount received pursuant to this act, and the expense incurred for salaries, laboratory expenses, chemical supplies, traveling expenses, printing, and other necessary matters. Whenever the manufacturer, importer, or shipper of concentrated commercial feeding-stuff shall have filed the statement required by section 1 of this act and paid the analysis fee as prescribed in this section, no agent or seller of such manufacturer, importer, or shipper shall be required to file such statement or pay such fee.

UNIFORM FEED-STUFF LAW APPROVED BY A CONFERENCE OF STATE OFFICIALS AND MANUFACTURERS AT WASHINGTON, D. C., SEPTEMBER 10, 1909.

A conference of feed-stuff manufacturers and state officials, having in charge the enforcement of cattle-feed laws, was held at Washington, D. C., September 10, 1909, for the purpose of recommending a type of legislation which would bring about a greater uniformity in the feed-stuff laws of the several states. This conference appointed a committee to report to them such a type of legislation, which committee consisted as follows:

State officials: Dr. E. B. Voorhees, Director New Jersey Agricultural Experiment Station, chairman; Dr. E. H.

Webster, Director Kansas Agricultural Experiment Station; Dr. E. H. Jenkins, Director Connecticut Agricultural Experiment Station; Dr. B. W. Kilgore, State Chemist, North Carolina; Mr. N. B. Critchfield, Secretary of Agriculture of Pennsylvania; Mr. L. F. Brown, Chief Bureau of Food Stuffs, New York Department of Agriculture.

Manufacturers: Mr. J. C. Reid, Corno Mills Co., St. Louis, Mo.; Mr. G. A. Chapman, Quaker Oats Co., Chicago; Mr. J. W. Young, Great Western Cereal Co., Chicago; Mr. A. S. Winter, American Milling Co., Chicago; Mr. W. R. Anderson, of "Flour and Feed," Milwaukee, Wis.; Mr. M. C. Peters (by proxy), M. C. Peters Mill Co., Omaha, Neb.

Dr. Voorhees reported for this committee as follows:

The following is rather a declaration of our views than what is meant to apply in any one state, so what I read is not complete in the sense that it is supposed to cover all conditions that may arise in different states.

WHAT THE LAW SHOULD CONSIST OF.

The report of the committee is as follows:

SECTION 1. It is recommended that section 1 shall define clearly the commercial feeding-stuffs which are intended to be covered by the provisions of the act, and so far as possible all feeding-stuffs shall be included which are intended for use for domestic animals except hays and straws, the unmixed grains or whole seeds and the unmixed meals or chops made directly of the entire grains or seeds of the cereals and buckwheat.

SECT. 2. This section shall require that whoever sells, offers or exposes for sale any commercial feeding-stuff covered by the provisions of section 1, shall cause to be plainly printed on each package or on a tag affixed to each package a statement which shall give the following information:

No. 1. The number of net pounds in the package.

No. 2. The name, brand or trade-mark.

No. 3. The name and principal address of the manufacturer or person responsible for placing the commodity on the market.

No. 4. Its chemical analysis expressed in the following terms:

(*a*) The minimum per centum of crude protein.

(*b*) The minimum per centum of crude fat.

(*c*) The maximum per centum of crude fiber.

No. 5. If a compounded or mixed feed the specific name of each ingredient contained therein.

If any such commercial feeding-stuffs shall be sold, exposed or offered for sale in bulk such printed statement shall accompany each car or lot. Whenever any feeding-stuff is sold at retail in bulk, or in any package belonging to the purchaser, the agent or dealer upon request of the purchaser, shall furnish to him the certified statement named in this section.

SECT. 3. Before any manufacturer, firm, association, corporation or person shall sell, offer or expose for sale in this state any commercial feeding-stuff, he or they shall have for each and every brand of such feeding-stuff filed with the proper official, a certified copy of the statement specified in section 2, said certified copy to be accompanied, when the officer in charge shall so request, by a sealed package containing at least one pound of the feeding-stuff to be offered or exposed for sale, and the company or person furnishing said sample shall thereupon make affidavit that said sample corresponds to the feeding-stuff which it represents, in the per centum of crude protein, crude fat, and crude fiber, and if a compounded or mixed feed, the specific name of each ingredient contained therein.

SECT. 4. The proper official shall cause to be analyzed at least once in each year at least one sample of the different commercial feeding-stuffs sold or offered for sale under the provisions of this act. The said proper official, or his duly authorized representative shall take a fair repre-

sentative sample in the presence of at least one witness. This sample must be divided, in the presence of such witness, into two equal parts, each part weighing not less than one-half pound; such parts shall be put in sealed packages in the presence of said witness, one package to be delivered to the person apparently in charge of the sale of such feed, the other sample the proper official shall cause to be analyzed at the earliest possible opportunity and the result of the analysis of the sample or samples so procured, together with such additional information as the proper official may deem advisable, shall immediately be transmitted to the manufacturer or person responsible for placing the feed on the market, and shall be published in reports or bulletins from time to time.

SECT. 5. No manufacturer, importer or seller shall sell, offer or expose for sale in this state, any commercial feeding-stuff that is poisonous or deleterious to domestic animals.

SECT. 6. Any manufacturer, importer or seller who violates any of the provisions of this act, shall upon trial and conviction, be guilty of a misdemeanor which shall be punished by a fine of not less than $.... nor more than $.... for each such offense.

Mr. Brown moved the adoption of the report. The motion was seconded by Dr. Webster and unanimously adopted by the conference.

At this point Dr. E. H. Jenkins, Director of the Agricultural Experiment Station of Connecticut, presented the following as a preamble for the outline of a uniform feed law reported by the committee and moved that it be made a part of the memorandum of the doings of the conference.

A conference was called in Washington, D. C., on September 9, 1909, by the American Feed Manufacturers' Association to which were invited the officials charged with the inspection of commercial feed-stuffs in all the states of the Union, having laws on the subject.

Such officials, or their representatives, were present from the following states: Massachusetts, Rhode Island, Connecticut, New Jersey, Pennsylvania, Maryland, Virginia, Kentucky, Kansas, North Carolina, New York.

A preliminary draft of the subjoined statement was prepared by a joint committee of the association and the feed control officials, and after full discussion was adopted by the conference.

It expresses the general opionion of this conference as to the main features of a law regulating the sale of commercial feeding-stuffs in the states, which if it were made the basis of all state laws on the subject would adequately protect both buyer and seller, and, by securing uniformity of requirements as to branding or tagging, would avoid much of the embarrassment and confusion now experienced by manufacturers and dealers which results from the differences and multiplicity in the requirements of the present laws on the subject.

The conference recognizes the fact that certain provisions of state laws, such as particular exemptions from its provisions, the taxation of sales by license fees, tonnage tax, etc., cannot be made alike in all the states, but believes that the most important features of a uniform law are embodied in this memorandum, and urges that such uniformity as to statements of composition and guarantees as herein suggested should be secured in the state laws.

The statement bears the official endorsement of one large section of the feed trade but is accepted by the state officials present only in their individual capacity and not in any sense as officially representing any organization.

Average Composition of Common Cattle Foods.

	Water.	Ash.	Protein.	Soluble Carbohydrates.	Fibre.	Fat.
* Hay, red top	8.9	5.2	7.9	47.4	26.6	1.9
* Hay, Timothy	13.2	4.4	5.9	45.0	29.0	2.5
* Hay, clover	15.3	6.2	12.3	38.1	24.8	3.3
* Hay, Hungarian	7.7	6.0	7.5	49.0	27.7	2.1
* Oat fodder	8.9	6.2	7.6	45.1	29.3	2.8
* Rye fodder, in bloom	8.5	5.9	9.7	43.4	30.2	2.3
* Corn stover	40.1	3.4	3.8	31.9	19.7	1.1
† Corn silage	80.5	1.5	1.6	10.0	5.8	0.6
* Corn, N. H. Flint	10.1	1.5	11.6	70.2	1.1	5.5
* Corn, Western Dent	10.6	1.5	10.3	70.4	2.2	5.0
* Corn meal	15.0	1.4	9.2	68.7	1.9	3.8
¶ Hominy feed	9.0	2.8	11.0	65.0	3.6	8.6
* Oats, whole	11.0	3.0	11.8	59.7	9.5	5.0
¶ Corn and oats, pure	12.0	2.2	9.8	68.5	3.3	4.2
§ Wheat bran, spring	10.6	6.0	16.3	53.0	9.4	4.7
§ Wheat bran, winter	11.7	5.9	15.2	54.8	8.5	3.9
¶ Wheat middlings, white	11.3	2.7	15.8	62.5	3.5	4.2
¶ Wheat middlings, brown	10.6	3.8	17.8	57.0	5.5	5.3
¶ Wheat feed	10.8	4.3	17.0	58.1	5.1	4.7
¶ Gluten feed	8.6	1.2	26.3	53.4	6.9	3.6
¶ Gluten meal	8.8	0.7	35.5	50.3	1.6	3.1
‡ Distillers' Grains	8.8	1.8	32.1	34.9	11.0	11.4
‡ Brewers' Grains	8.0	3.8	23.1	49.4	10.8	4.9
‡ Malt sprouts	11.0	5.8	27.1	42.6	11.9	1.6
¶ Linseed meal, old process	9.8	5.5	33.9	35.7	7.3	7.8
¶ Linseed meal, new process	9.1	5.8	35.2	38.4	8.5	3.0
¶ Cottonseed meal	6.9	7.2	44.6	25.1	5.6	10.6

* Composition of American Feeding Stuffs. Jenkins and Winton.
† Analyses made at the N. H. Expt. Sta., 1895-1899.
§ Penn. Expt. Sta. Bull., No. 48.
¶ Compiled from Feed Inspection Reports of various states.
‡ Hatch Expt. Sta. Bull., No. 94.

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